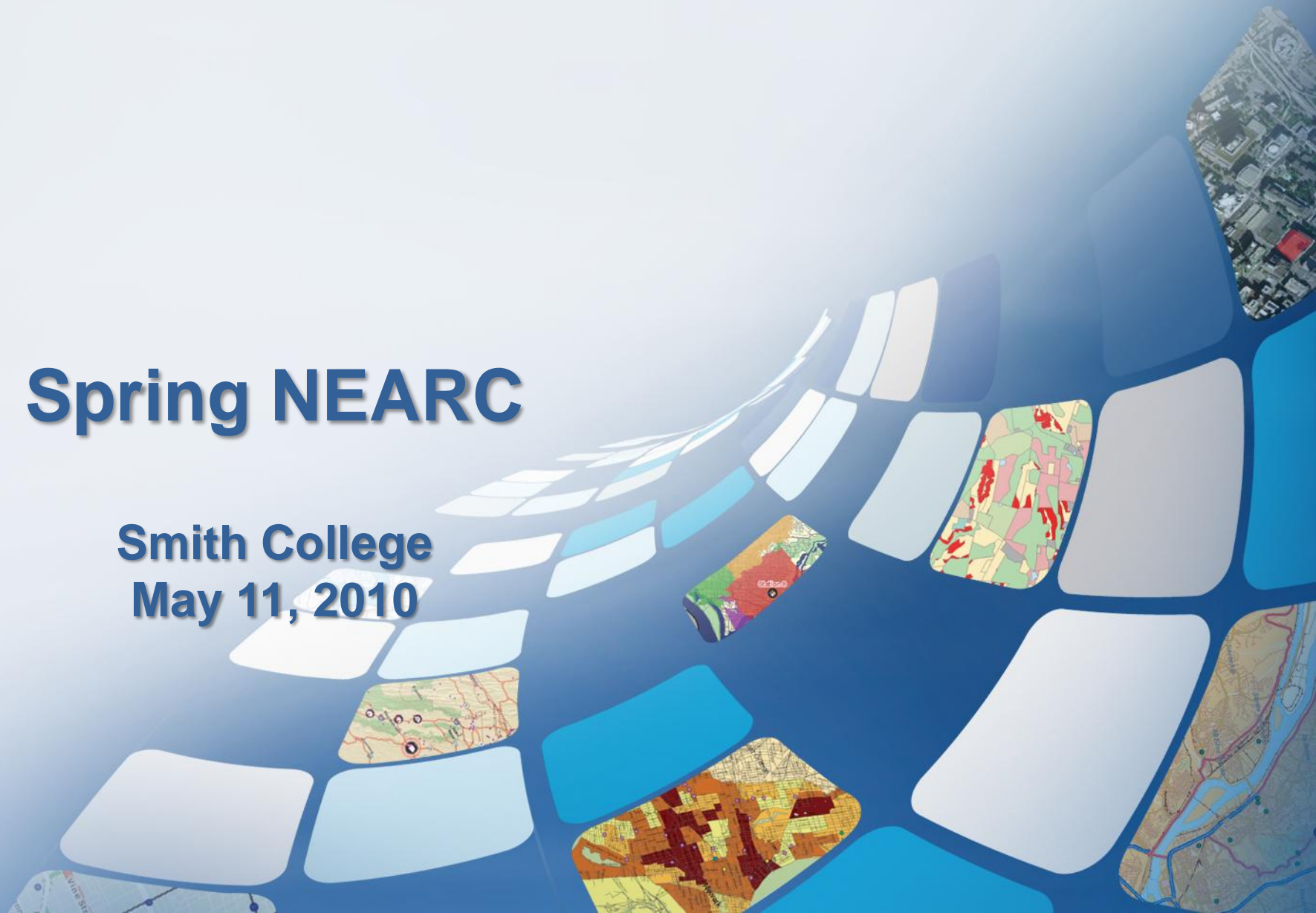


Spring NEARC

Smith College
May 11, 2010



ArcGIS 10: New Frontiers

Spring NEARC

**Smith College
May 11, 2010**

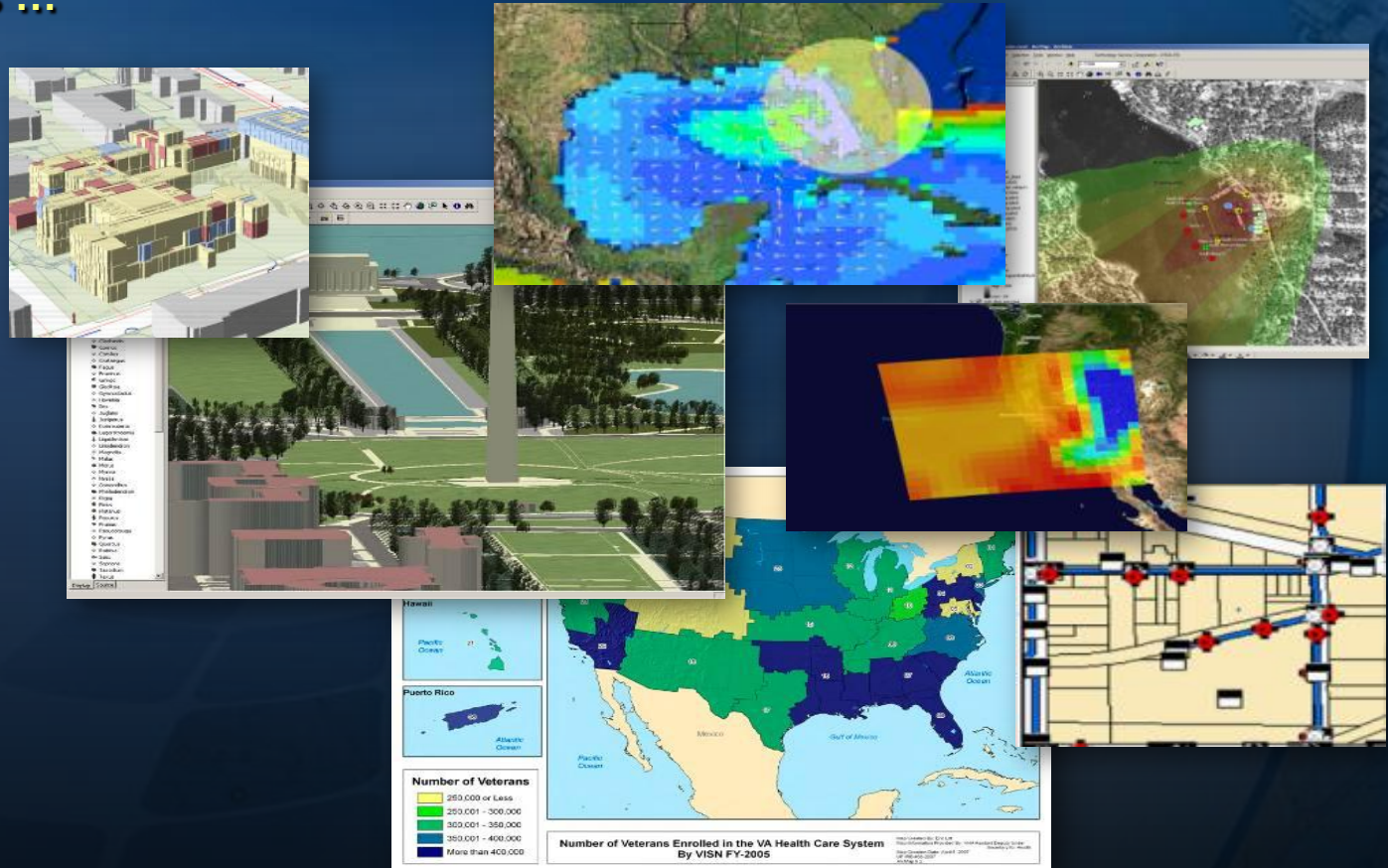


GIS Is Changing

The background of the slide is a dark blue gradient. On the right side, there is a faint, semi-transparent image of a globe and a map. The globe is positioned in the upper right corner, and the map is below it, showing various landmasses and water bodies. The map appears to be a stylized or abstract representation, possibly showing a specific region or a global overview.

Your GIS Work Provides the Evidence

- **Federal government**
- **State & local government**
- **Natural Resources**
- **Utilities**
- **Transportation & Logistics**
- **Intelligence**
- **Defense**
- **Science & Technology**
- **Public Safety**
- **Homeland Security**
- **Environmental**
- **Water/Wastewater**
- **Telecommunications**
- **Health Care**
- **Agriculture**
- **Energy**
- **Mining**
- **Insurance/banking**
- **Retail**
- **Real Estate**
- **Education**



A New GIS Platform Is Emerging

Easier, Accessible and Collaborative

Enabled By

- Cloud Architecture
- Web Services
- Information Integration
- Crowd Sourcing
- Open Data Sharing Policies

... And ArcGIS Software



*Empowering the GIS Professional . . .
And the Broader Community*

Web and Services Focused

*Richer, Easier and More Pervasive
New Styles, Patterns and Techniques*



New Services



New Media

*Many Opportunities for Creative Work . . .
. . . And Spreading Geography Everywhere*



Organizations Are Creating Geo-Services

Moving from Data Sharing to Shared Services (Maps, Models, Data . . .)

- RESTful Services
- Easily Discovered
- Open Standards Based
- Easy-to-Use Clients
- Customizable (API's)

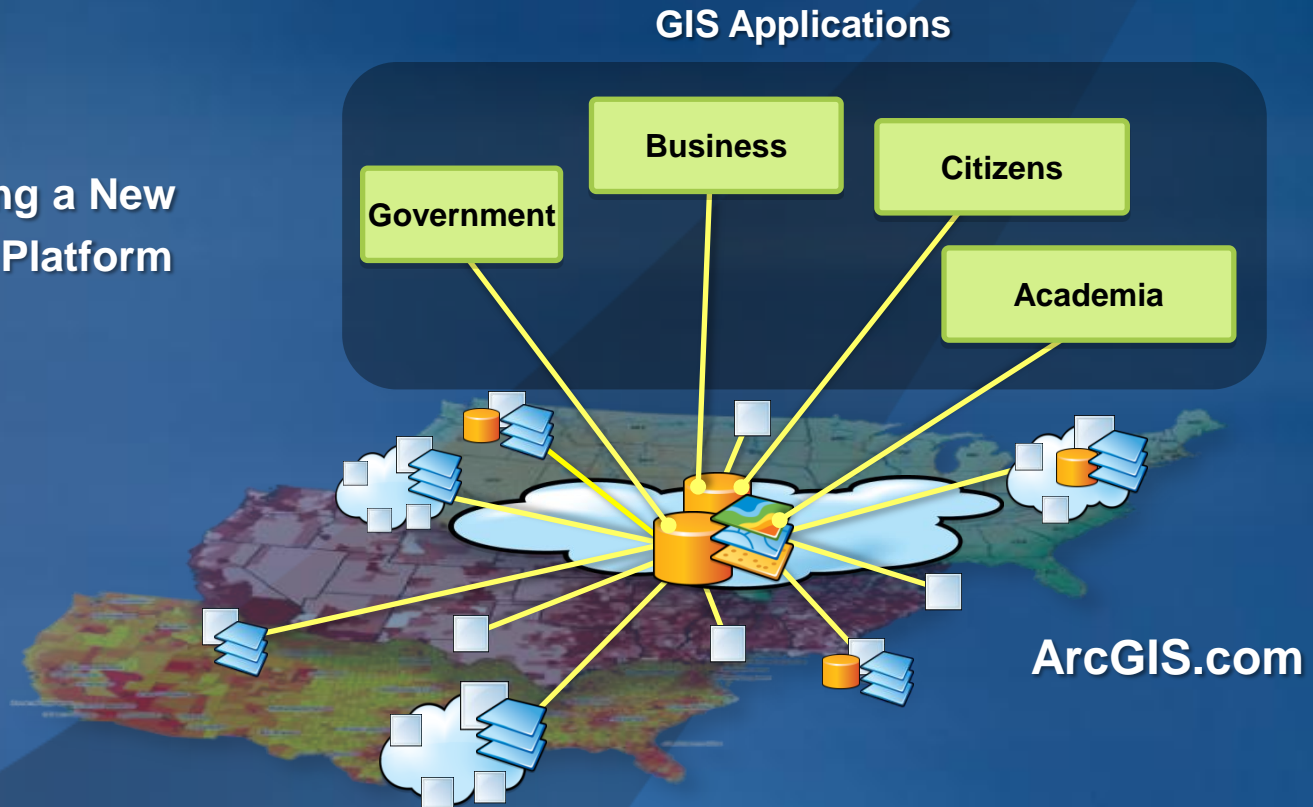


*Providing Access to Many New Users
... Enabling a New Kind of Sharing*

A Web Based GIS Is Emerging

... A Distributed Network of Systems and Services

Providing a New
Shared Platform



*Integrating GIS Activities ...
Supporting Access, Sharing and Collaboration*

You Are Building Web Applications

Extending the Reach of Geographic Knowledge to Everyone

- Authoritative Data
- High Quality Maps
- Analysis and Models
- Rich Applications



*Leveraging GeoServices. . .
... To Serve Multiple Users*

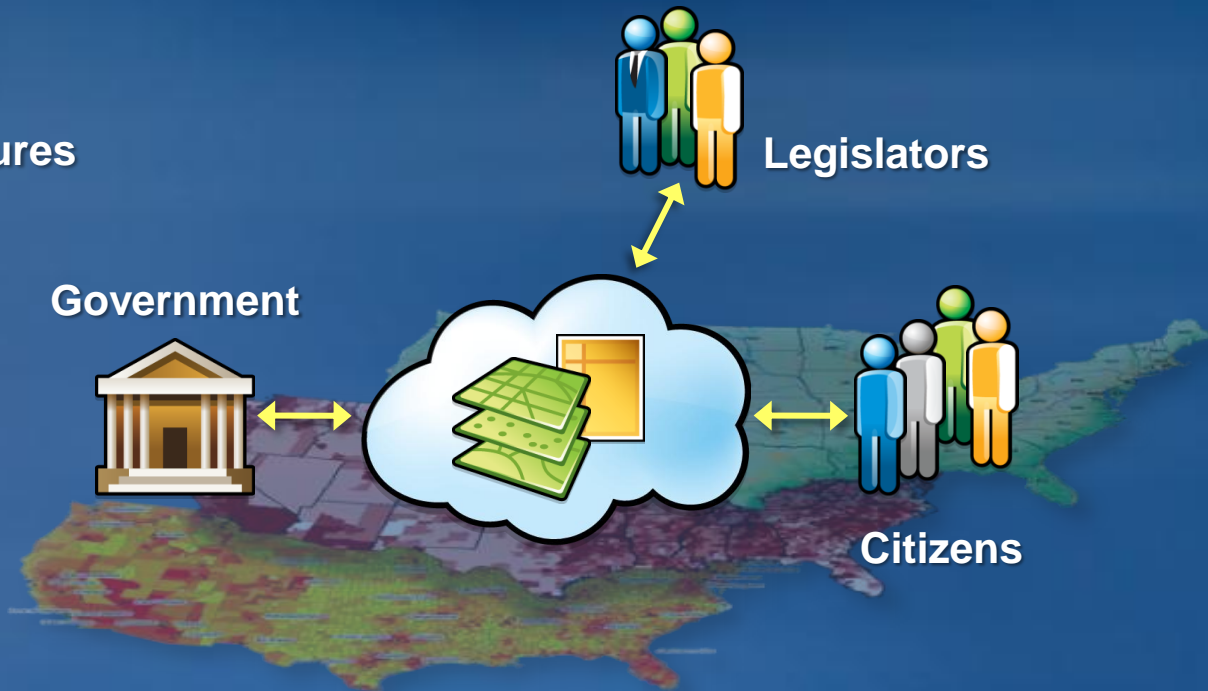
Emerging Applications

The background of the slide is a solid blue gradient. Overlaid on this gradient are several faint, semi-transparent images. On the right side, there is a vertical strip of satellite imagery showing a coastal area with buildings and vegetation. Below this, and extending across the lower half of the slide, are several overlapping, tilted rectangular shapes that appear to be maps or satellite images of different regions, rendered in a lighter blue tone.

Transparency and Accountability

Communicating What the Government Is Doing

- Projects
- Status
- Expenditures
- Needs



*Enabling a New Era of Open Government . . .
... Strengthening the Democratic Process*

Recovery.gov

[illegible]


[Homepage](#), [July 30, 2009](#)

[Join A* A* A* | Google+ Community](#) | [RSS Feeds](#) | [REPORT FRAUD, WASTE & ABUSE](#)



RECOVERY.GOV

SEE WHERE YOUR MONEY IS GOING

Recovery.gov is the U.S. government's official site for providing access to federal funds allocated to Recovery Act spending, and a forum for reporting potential fraud, waste, and abuse

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THURSDAY, JULY 26, 2009

Search A-Z | Google Translate

RECOVERY.GOV

SEE WHERE YOUR MONEY IS GOING

Recovery.gov is the U.S. government's official site providing real-time access to data related to Recovery Act spending, and is a forum for reporting potential fraud, waste, and abuse

HOME | OVERVIEW | ACCOUNTABILITY | WHERE IS THE MONEY GOING? | OPPORTUNITIES

Home » Where's the Money Going? » Data and Maps

CALIFORNIA

Map | Details & Graphs

Resident | Contents | Summary | Links | Saved Agency

California

California Total

California (Detailed)

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000 10100 10200 10300 10400 10500 10600 10700 10800 10900 11000 11100 11200 11300 11400 11500 11600 11700 11800 11900 12000 12100 12200 12300 12400 12500 12600 12700 12800 12900 13000 13100 13200 13300 13400 13500 13600 13700 13800 13900 14000 14100 14200 14300 14400 14500 14600 14700 14800 14900 15000 15100 15200 15300 15400 15500 15600 15700 15800 15900 16000 16100 16200 16300 16400 16500 16600 16700 16800 16900 17000 17100 17200 17300 17400 17500 17600 17700 17800 17900 18000 18100 18200 18300 18400 18500 18600 18700 18800 18900 19000 19100 19200 19300 19400 19500 19600 19700 19800 19900 20000 20100 20200 20300 20400 20500 20600 20700 20800 20900 21000 21100 21200 21300 21400 21500 21600 21700 21800 21900 22000 22100 22200 22300 22400 22500 22600 22700 22800 22900 23000 23100 23200 23300 23400 23500 23600 23700 23800 23900 24000 24100 24200 24300 24400 24500 24600 24700 24800 24900 25000 25100 25200 25300 25400 25500 25600 25700 25800 25900 26000 26100 26200 26300 26400 26500 26600 26700 26800 26900 27000 27100 27200 27300 27400 27500 27600 27700 27800 27900 28000 28100 28200 28300 28400 28500 28600 28700 28800 28900 29000 29100 29200 29300 29400 29500 29600 29700 29800 29900 30000 30100 30200 30300 30400 30500 30600 30700 30800 30900 31000 31100 31200 31300 31400 31500 31600 31700 31800 31900 32000 32100 32200 32300 32400 32500 32600 32700 32800 32900 33000 33100 33200 33300 33400 33500 33600 33700 33800 33900 34000 34100 34200 34300 34400 34500 34600 34700 34800 34900 35000 35100 35200 35300 35400 35500 35600 35700 35800 35900 36000 36100 36200 36300 36400 36500 36600 36700 36800 36900 37000 37100 37200 37300 37400 37500 37600 37700 37800 37900 38000 38100 38200 38300 38400 38500 38600 38700 38800 38900 39000 39100 39200 39300 39400 39500 39600 39700 39800 39900 40000 40100 40200 40300 40400 40500 40600 40700 40800 40900 41000 41100 41200 41300 41400 41500 41600 41700 41800 41900 42000 42100 42200 42300 42400 42500 42600 42700 42800 42900 43000 43100 43200 43300 43400 43500 43600 43700 43800 43900 44000 44100 44200 44300 44400 44500 44600 44700 44800 44900 45000 45100 45200 45300 45400 45500 45600 45700 45800 45900 46000 46100 46200 46300 46400 46500 46600 46700 46800 46900 47000 47100 47200 47300 47400 47500 47600 47700 47800 47900 48000 48100 48200 48300 48400 48500 48600 48700 48800 48900 49000 49100 49200 49300 49400 49500 49600 49700 49800 49900 50000 50100 50200 50300 50400 50500 50600 50700 50800 50900 51000 51100 51200 51300 51400 51500 51600 51700 51800 51900 52000 52100 52200 52300 52400 52500 52600 52700 52800 52900 53000 53100 53200 53300 53400 53500 53600 53700 53800 53900 54000 54100 54200 54300 54400 54500 54600 54700 54800 54900 55000 55100 55200 55300 55400 55500 55600 55700 55800 55900 56000 56100 56200 56300 56400 56500 56600 56700 56800 56900 57000 57100 57200 57300 57400 57500 57600 57700 57800 57900 58000 58100 58200 58300 58400 58500 58600 58700 58800 58900 59000 59100 59200 59300 59400 59500 59600 59700 59800 59900 60000 60100 60200 60300 60400 60500 60600 60700 60800 60900 61000 61100 61200 61300 61400 61500 61600 61700 61800 61900 62000 62100 62200 62300 62400 62500 62600 62700 62800 62900 63000 63100 63200 63300 63400 63500 63600 63700 63800 63900 64000 64100 64200 643

[illegible]

[Data and Maps](#)
[State, Local, Tribal & Territorial info](#)
[Agency Sites and Info](#)
[Categories](#)
[Data Resources](#)

To access data and create your own reports, visit the [Download Center](#)

DID YOU KNOW?
This is where the data you will find. It will be displayed in an easy to read font style and size. This is where the data you will go

USEFUL LINKS

- Federal Agency Timelines
- Frequently Asked Questions
- Data Dictionary
- Local Links
- White House Protection
- Press Room
- Download Center
- Site Feedback

MOST PROJECTS STARTED BY STATE

[View All](#)

Accessibility | Data and Maps | Data Resources | Information | Copyright Information

Many Agencies Are Doing This

Providing a New Way of Doing Business . . .



. . . There's No Going Back

Place-Based Approaches

Increasing the Impact of Government Programs and Projects

- Coordinating Projects and Programs
- Developing Coordinated Plans
- Supporting Integrated Decision Making



Using Geography and GIS as a Framework for Integrated Problem Solving

Crowd Sourcing

Volunteered Geographic Information (VGI)

Engaging Citizens in Spatial Data Collection and Civic Action

- Observations
 - Conditions (i.e. 311 . . .)
 - Delinquent Behavior
 - Citizen Science
 - Events
 -
- Opinions and Feedback
- Systematic Data Collection



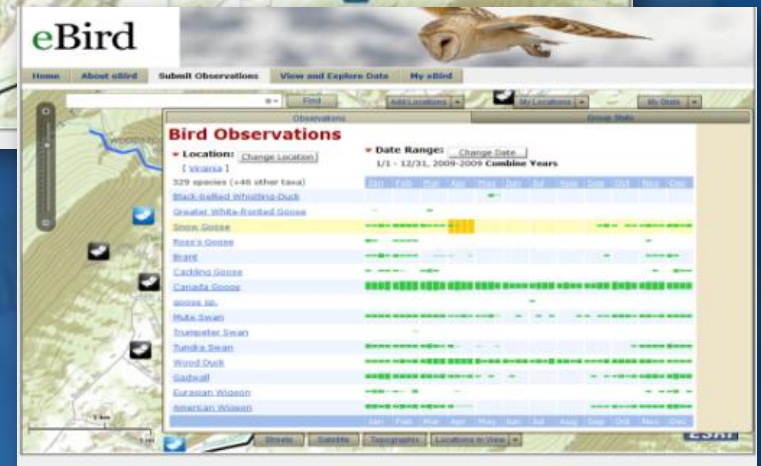
Empowering Everyone to Participate and Contribute

Volunteer Geographic Information

Citizen Science



Citizen Reporting



NPS

Columbia University

GIS Supports Gov 2.0

Government as a Platform for Improving Society



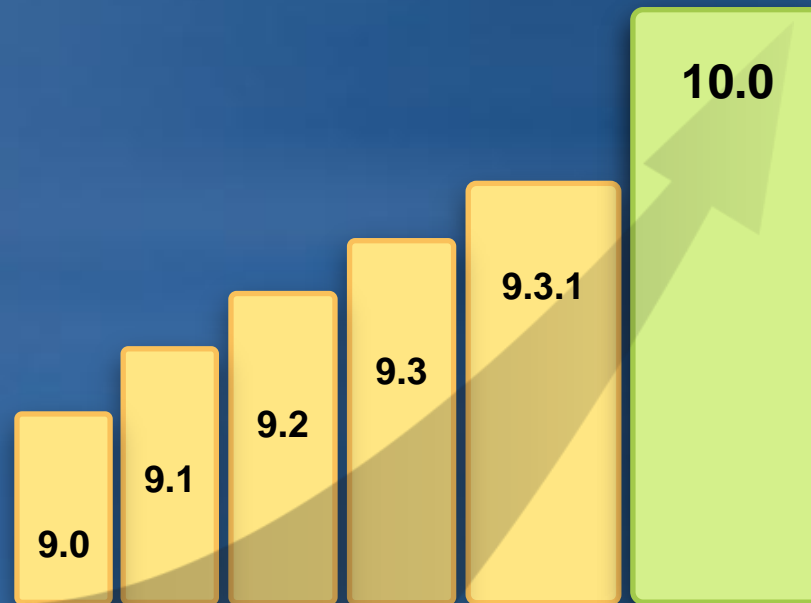
... Enabling Success of Others

The Platform



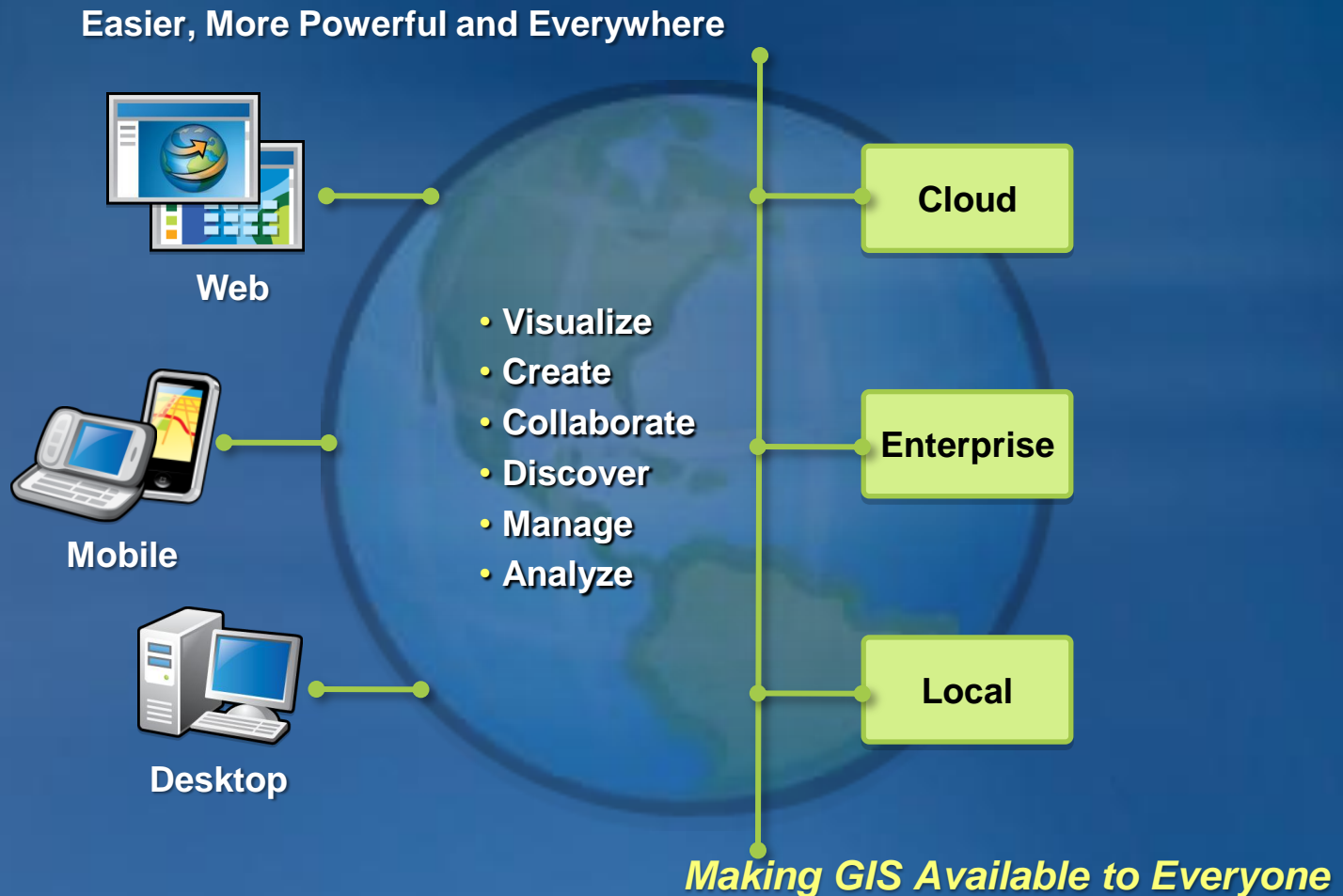
ArcGIS 904

Extending The Reach



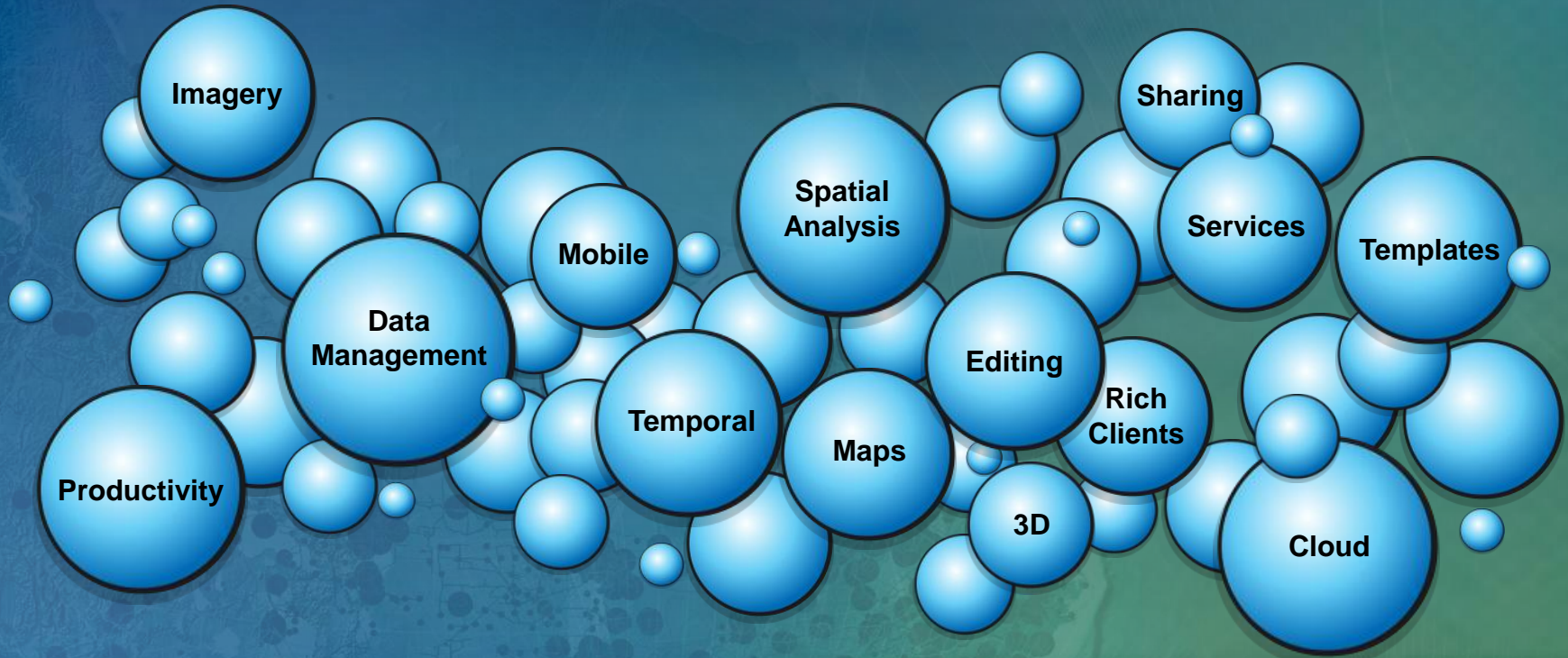
A Simpler GIS

A Pervasive System for Using Maps and Geographic Information



Themes

Usability, Performance and Functionality

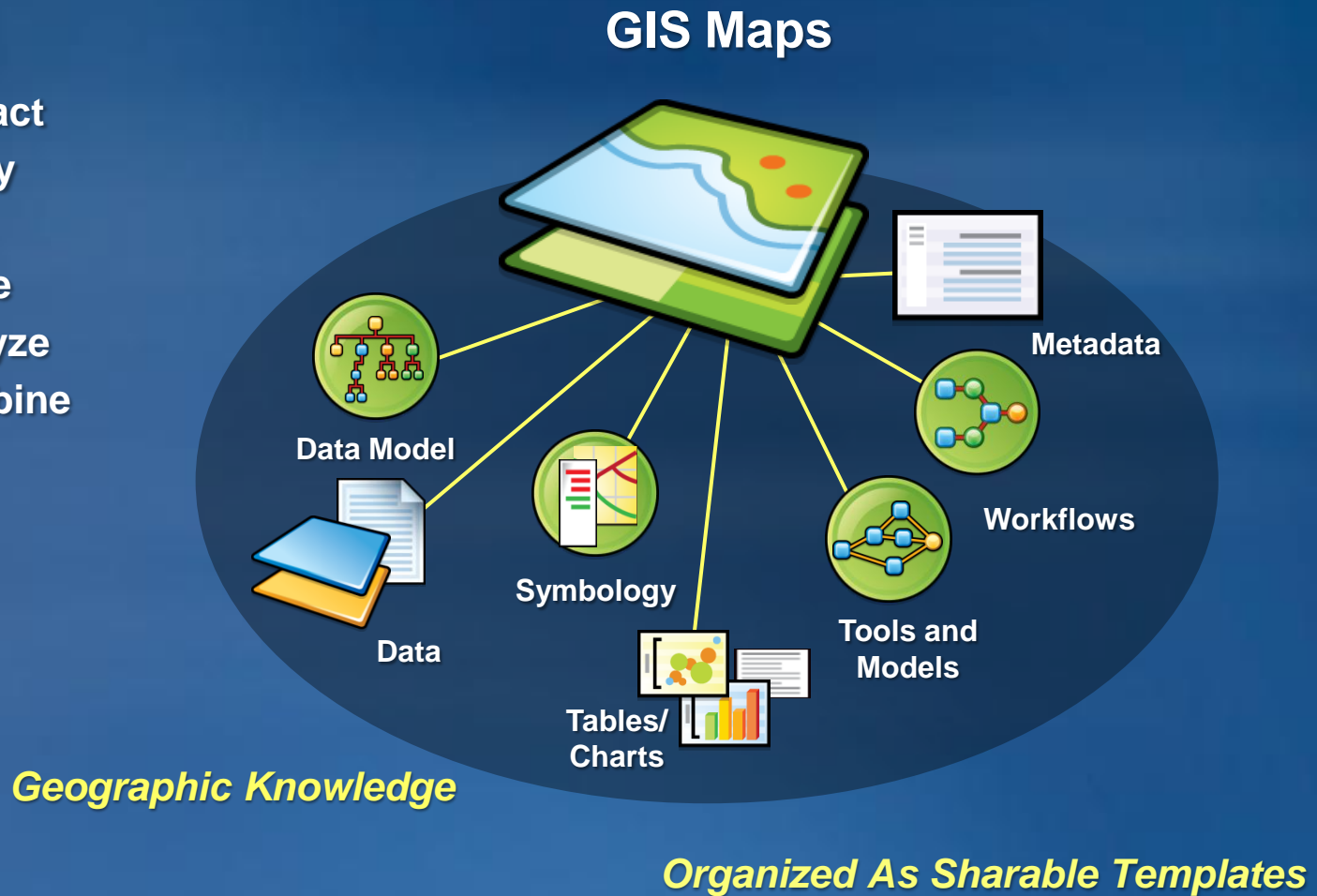


*Making Users More Productive . . .
... And Their Knowledge Available to Everyone*

The Map Is The Focus

Simplifying Working With a GIS

- Interact
- Query
- Edit
- Share
- Analyze
- Combine



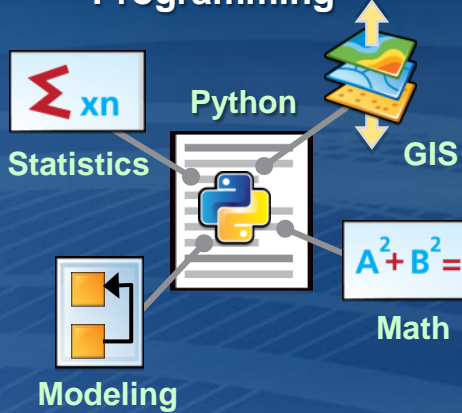
Many New Advancements

Making GIS Easier and More Productive

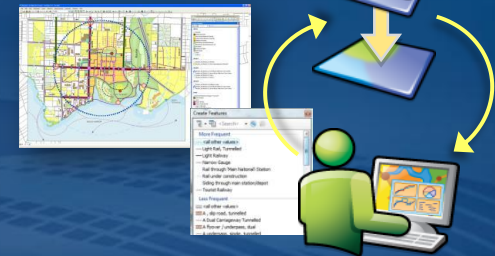
Fast Display



Integrated Scientific Programming



Easier Editing and Sketching

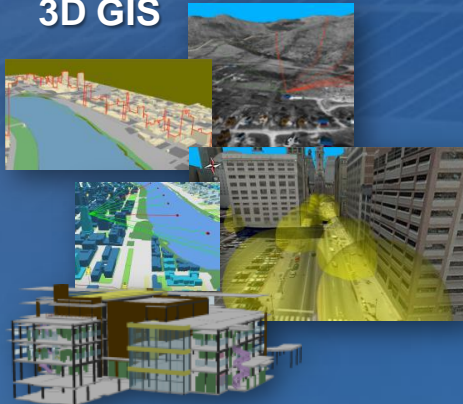


Crowd Sourcing

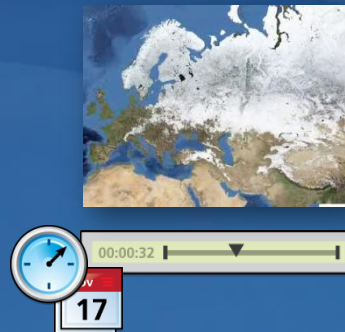
Integrated Search



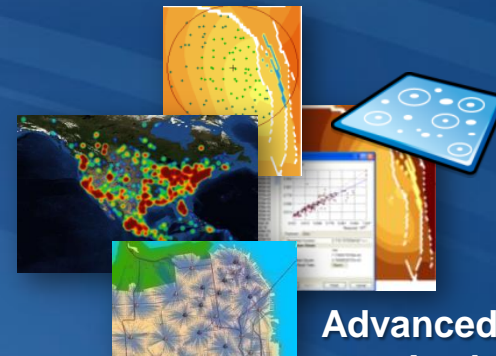
3D GIS



Time Aware



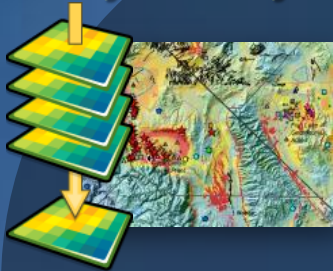
Advanced Spatial Analysis



Advancing Spatial Analysis

- Better Raster Analysis

Fuzzy Overlay



Ecological Sampling



Location/Allocation



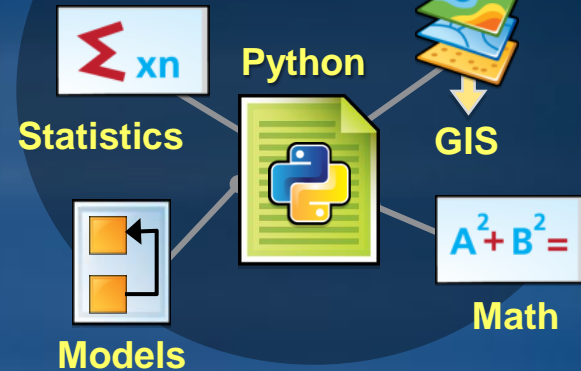
Time Routing



Model Complex Relationships



Integrated Scientific Scripting



Time Aware

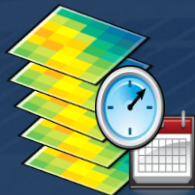


Integration of Imagery

Fast Display, Analysis and Scalability



Dynamic Fast Display



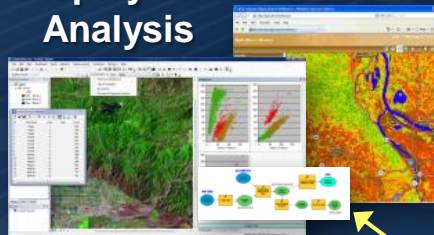
Supporting Time

Dynamic Processing



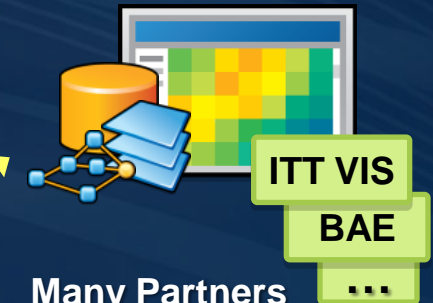
On-the-Fly Analysis

Display and Analysis



Any Client

Advanced Analysis and Extraction



ITT VIS
BAE
...

Many Partners

Image Service

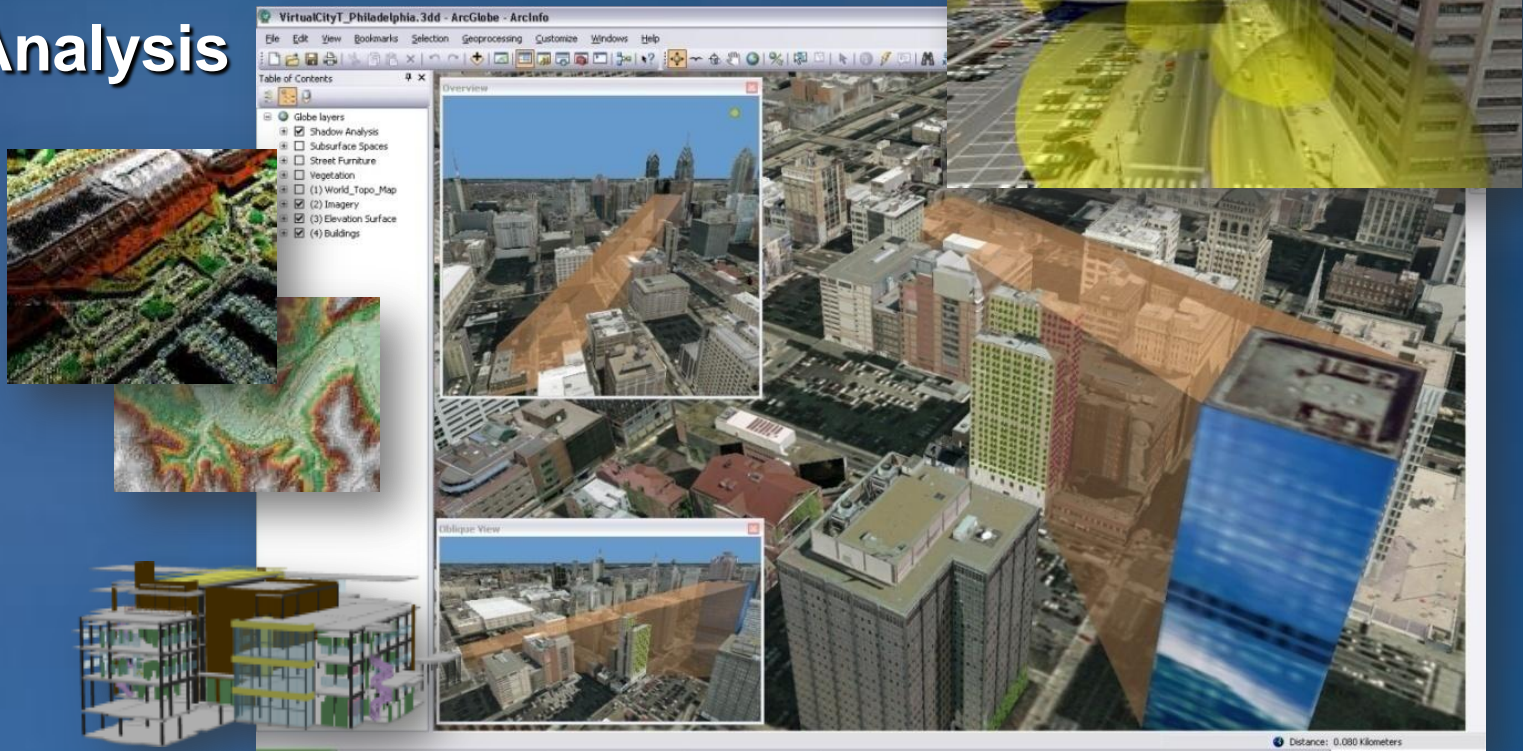


Massive Scalability

Providing Data Management, Exploitation and Dissemination

Empowering You with 3D GIS

- Visualization
- Creation/Editing
- Analysis



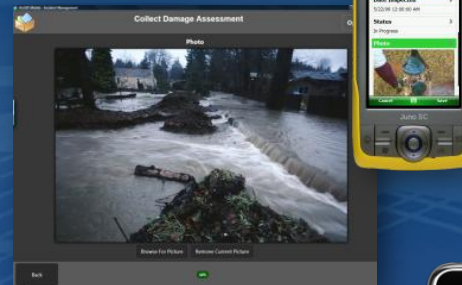
Mobile Integration

... Connect Mobile Workers

... Making them Part of the Enterprise



Capture Photos



Smart Phones



Tablet



Customizable Applications



... Providing Real-Time Situation Awareness

Demonstration

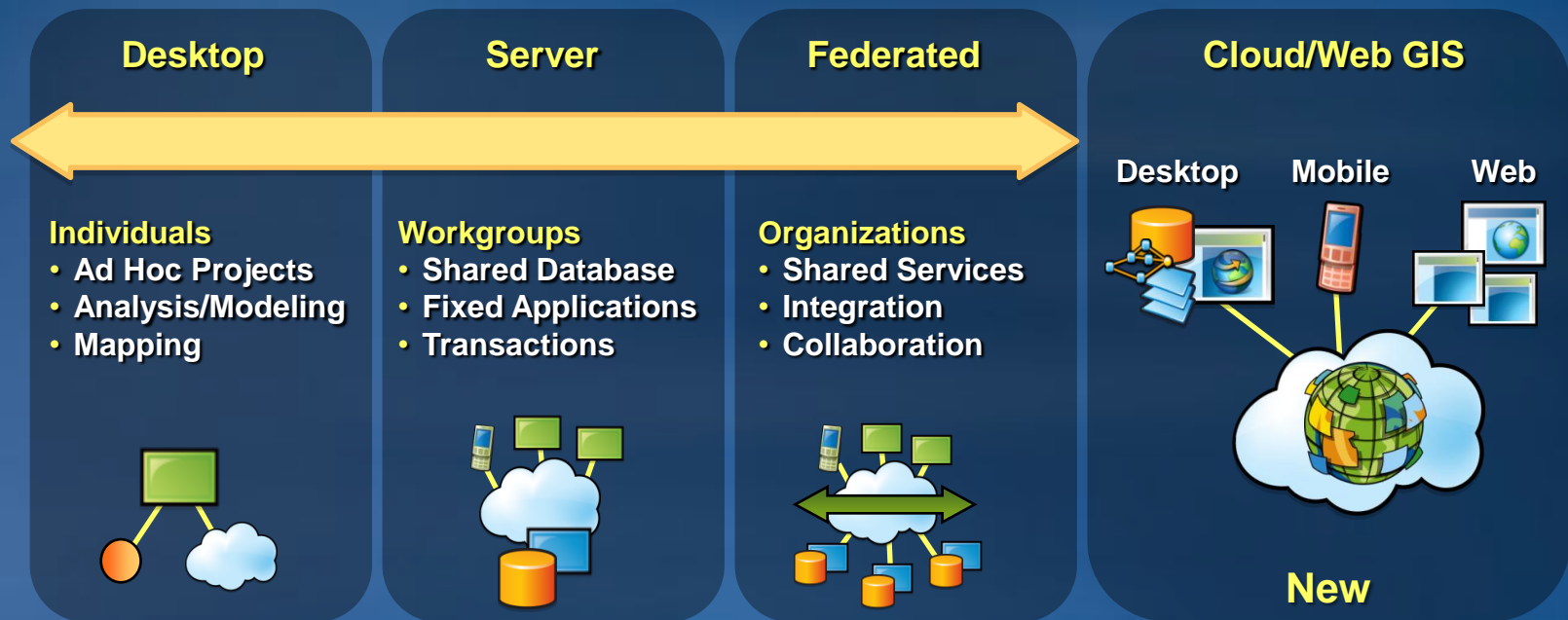


Implementation Patterns

The background of the slide is a solid dark blue. Overlaid on this background are several faint, semi-transparent images. On the right side, there is a small, detailed map of a coastal area. Below and to the left of this, there are several larger, more abstract shapes that resemble maps or diagrams, some with internal patterns and colors like red and yellow, though they are too faded to be clearly identifiable.

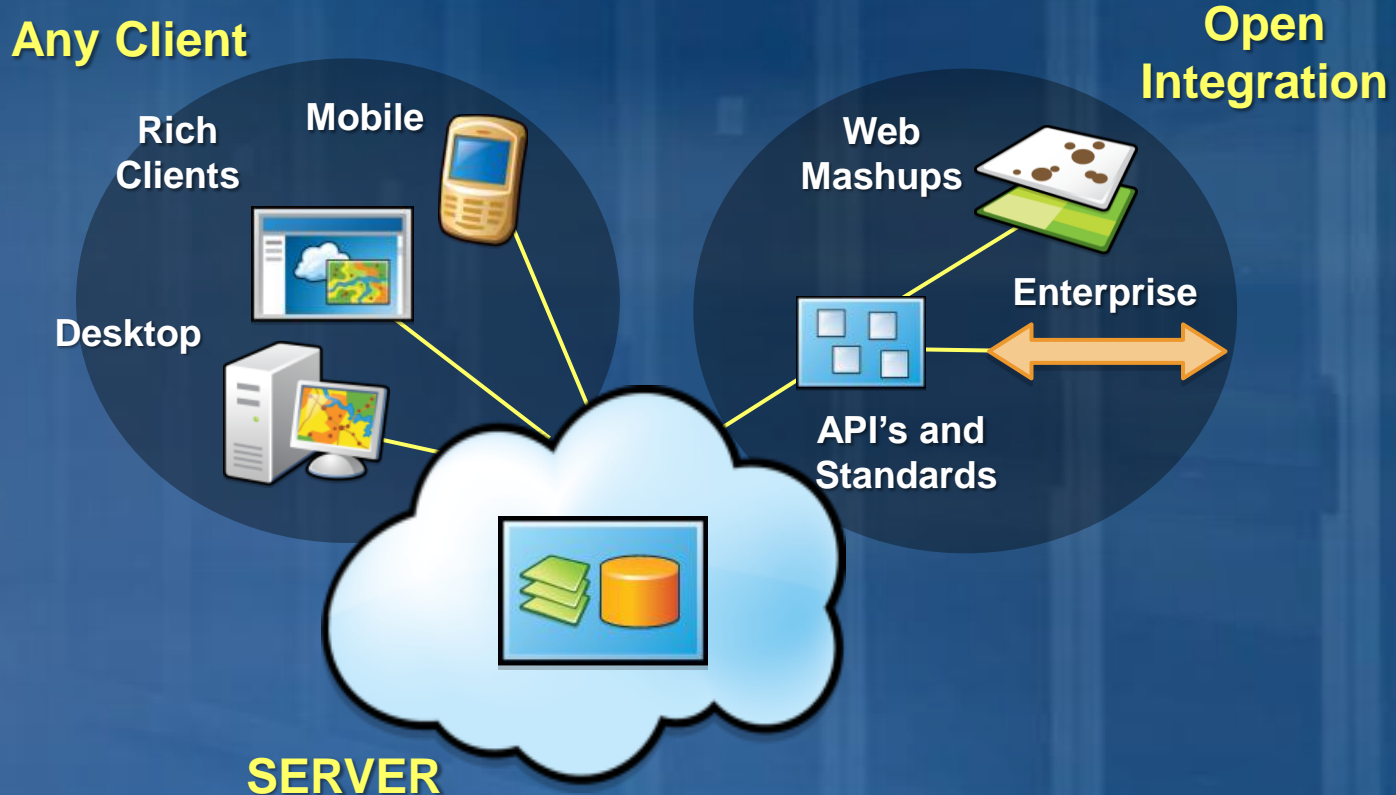
GIS Implementations Follow Common Patterns

Supporting Enterprise and Pervasive Computing



ArcGIS 10 Is Cloud Ready

Supporting Enterprise and Web Deployments



Transforming GIS Access, Usability and Collaboration

The Cloud





Private Clouds



Public Clouds

Clear



Partly Cloudy



Cloudy



What Is the Cloud?

**Software as
a Service
(SaaS)**

**End-user applications delivered
as a service rather than on-
premises software**

**Platform as
a Service
(PaaS)**

**Application platform or
middleware on which
applications can be built**

**Infrastructure as
a Service
(IaaS)**

**Compute, storage, or other IT
infrastructure as a service**

**Software + Services
(S+S)**

**Leveraging hosted services with
locally installed software
applications**

ArcGIS 10

The new platform for cloud GIS

Maps & Apps

- Content
- APIs

Solutions

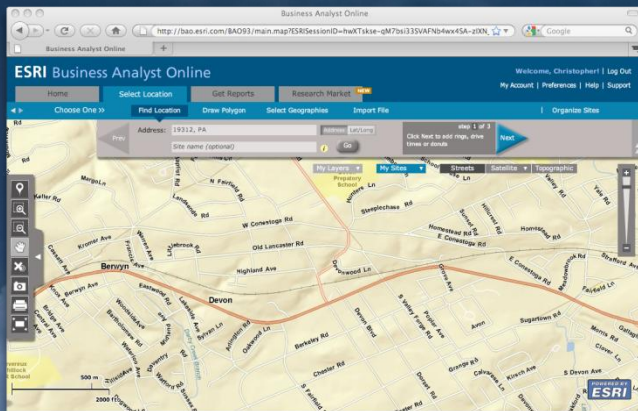
- Business Analyst
- ArcLogistics
- Partners . . .

Cloud Computing

- ArcGIS Server on Amazon
- Hosting by ESRI
- Others . . .

ESRI SaaS Solutions

Focused applications in the cloud



ESRI Business Analyst Online

- Focused business application
- Priced by the user



ESRI ArcLogistics Online

- Focused logistics application
- Priced by the vehicle

... both are available now

ESRI and the Cloud

**ESRI Business Analyst
Online**

ArcLogistics Online

**Software as
a Service
(SaaS)**

**End-user applications delivered
as a service rather than on-
premises software**

Web Mapping APIs

**Platform as
a Service
(PaaS)**

**Application platform or
middleware on which
applications can be built**

ESRI Online Data Center

**Infrastructure as
a Service
(IaaS)**

**Compute, storage, or other IT
infrastructure as a service**

MapIt

ArcGIS + Online Content

**Software + Services
(S+S)**

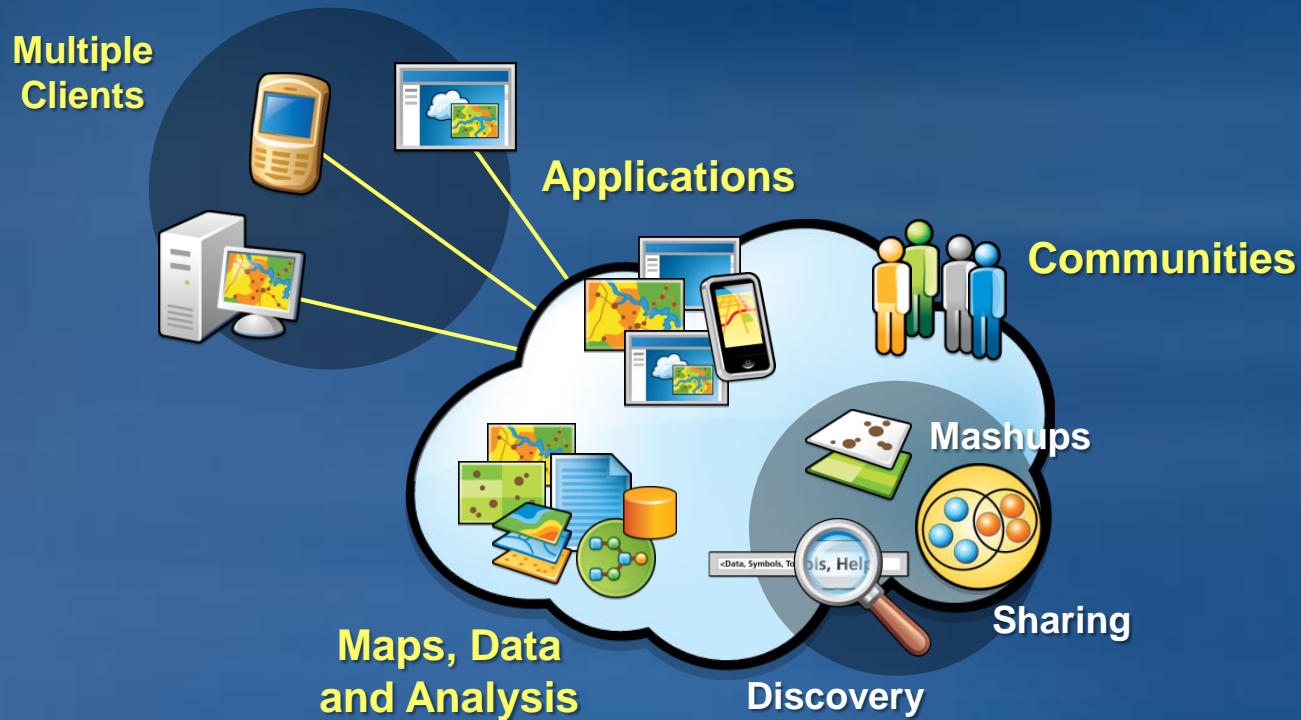
**Leveraging hosted services with
locally installed software
applications**

The New Pattern

The background of the slide is a solid blue gradient. Overlaid on this are faint, semi-transparent patterns. In the lower right quadrant, there is a pattern of overlapping, rounded rectangular shapes, some of which contain small, colorful, abstract designs. In the upper right corner, there is a small, textured, circular pattern that resembles a satellite image or a microscopic view of a material.

ArcGIS.com

A Complete GIS Implemented In the Cloud



*Users Can Create, Share, Find and Use . . .
. . . Data, Maps and Applications*



GALLERY

MAP

GROUPS

MY CONTENT

RESOURCE CENTER

Find maps, applications and more...



Your maps and apps
shared on the Web.

ArcGIS
Now Online.



Princeville, Hawaii, USA

Get Started

Finding and using geographic information on the Web has never been easier.

[View the Gallery](#) [Make A Map](#)

Changing How You Do GIS

ArcGIS is an online system for using geographic information everywhere.

[Learn More About ArcGIS](#)

Try ArcGIS Explorer Online

ArcGIS Explorer is a rich client for using, creating, and sharing ArcGIS maps online.

[Start Explorer](#)

Demonstration



ArcGIS.com Provides Free and Fee Based Content

Many Ready-to-Use Map and Image Services



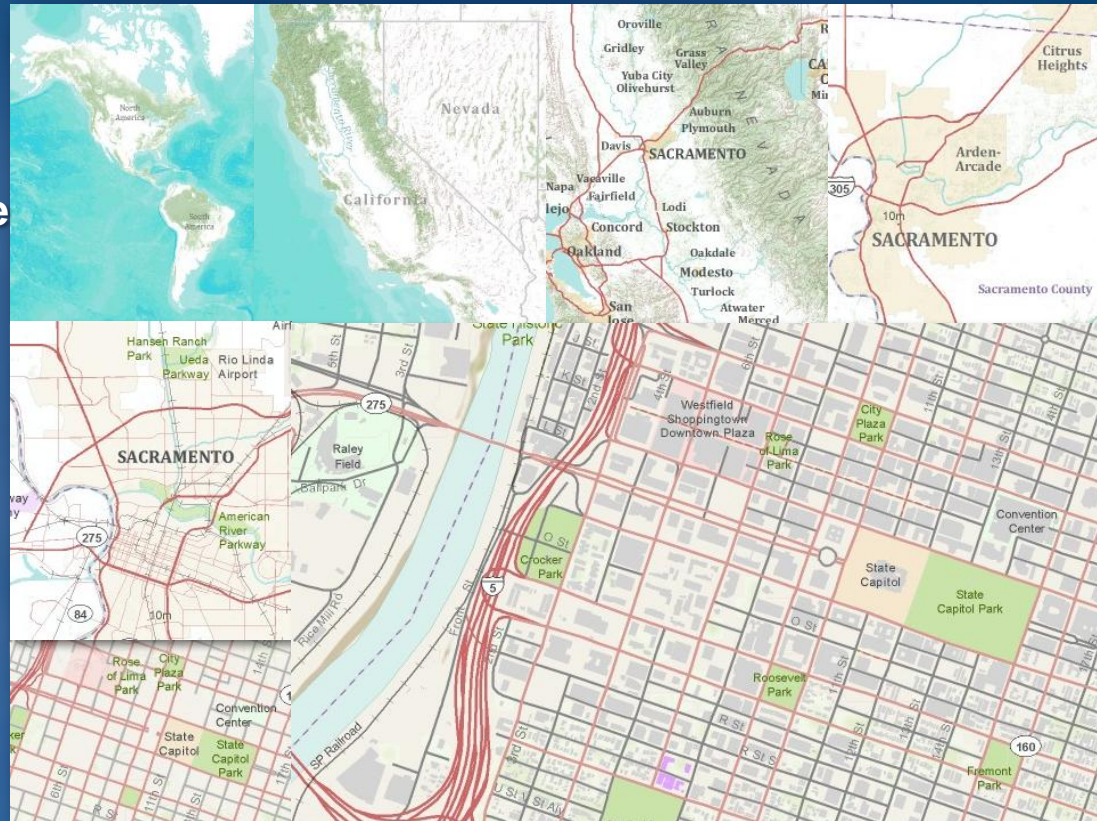
Demographic and Thematic



ESRI Is Creating a Community Topographic Basemap

A New Opportunity to Share and Collaborate

- Collaborative
- Multi Scale
- Authoritative Source
- Template Based



A Free and Open Service for GIS Users

ArcGIS.com Empowers You

Many Free Services, Tools and API's

Services

- Mapping
- Geo-coding
- Mashups
- Spatial Analysis
- Routing
- 3-D Visualization
- Navigation

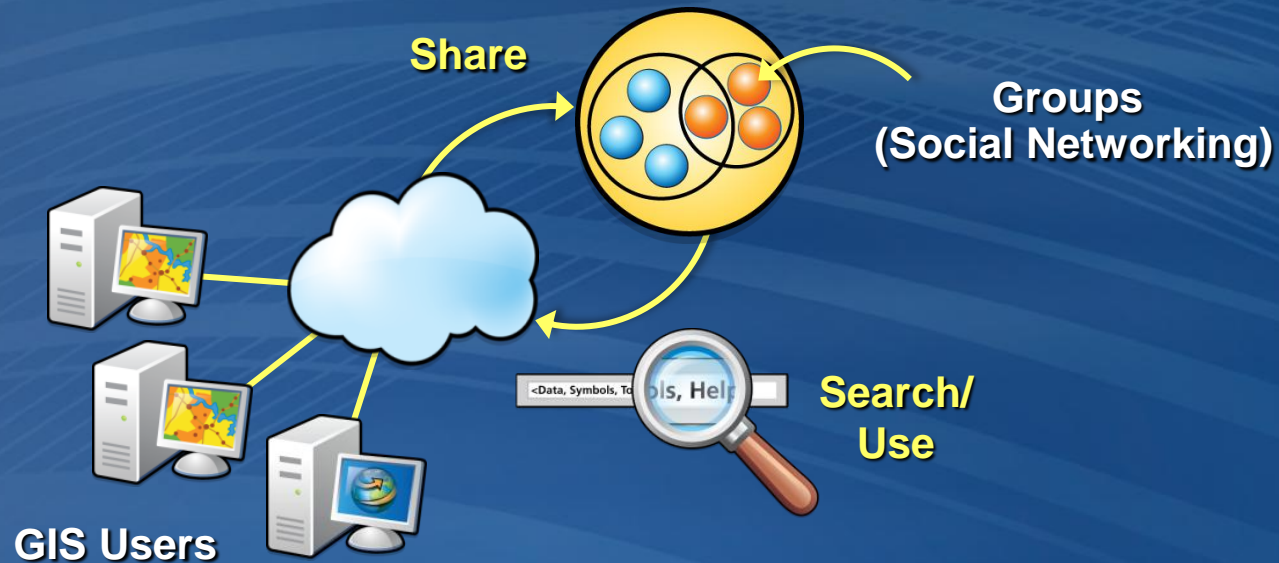


For Rapidly Building Rich Internet Applications

ArcGIS.com Helps Us Share

Maps, Data and Applications

SHARING



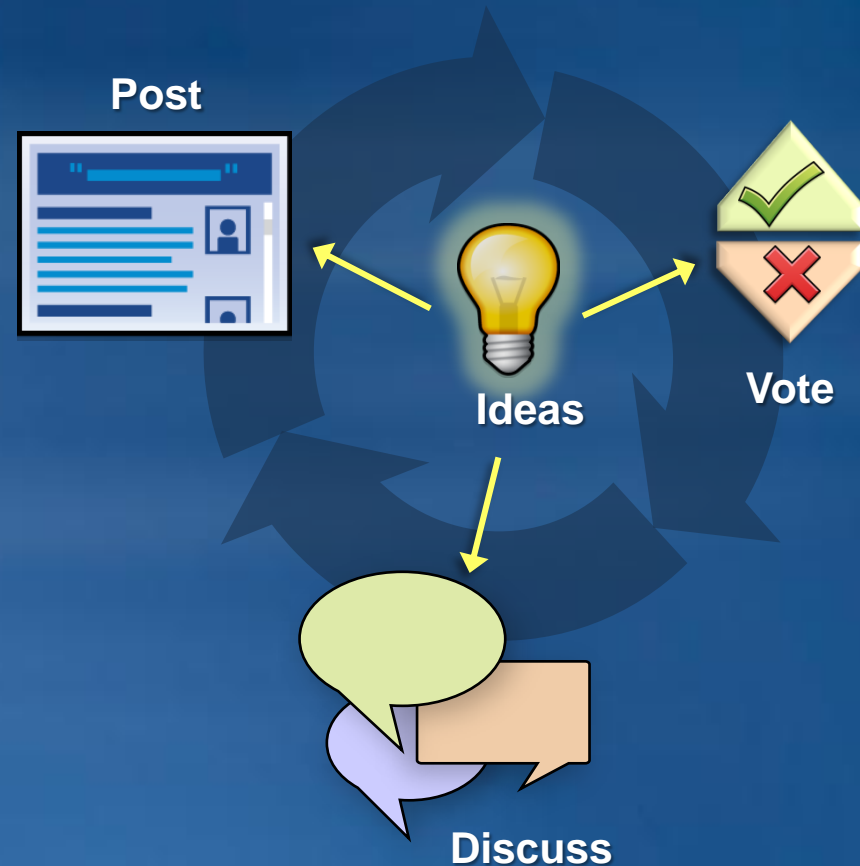
... An Online Resource for ArcGIS Users

Ideas Portal

Making Community Involvement In Our Development Easier

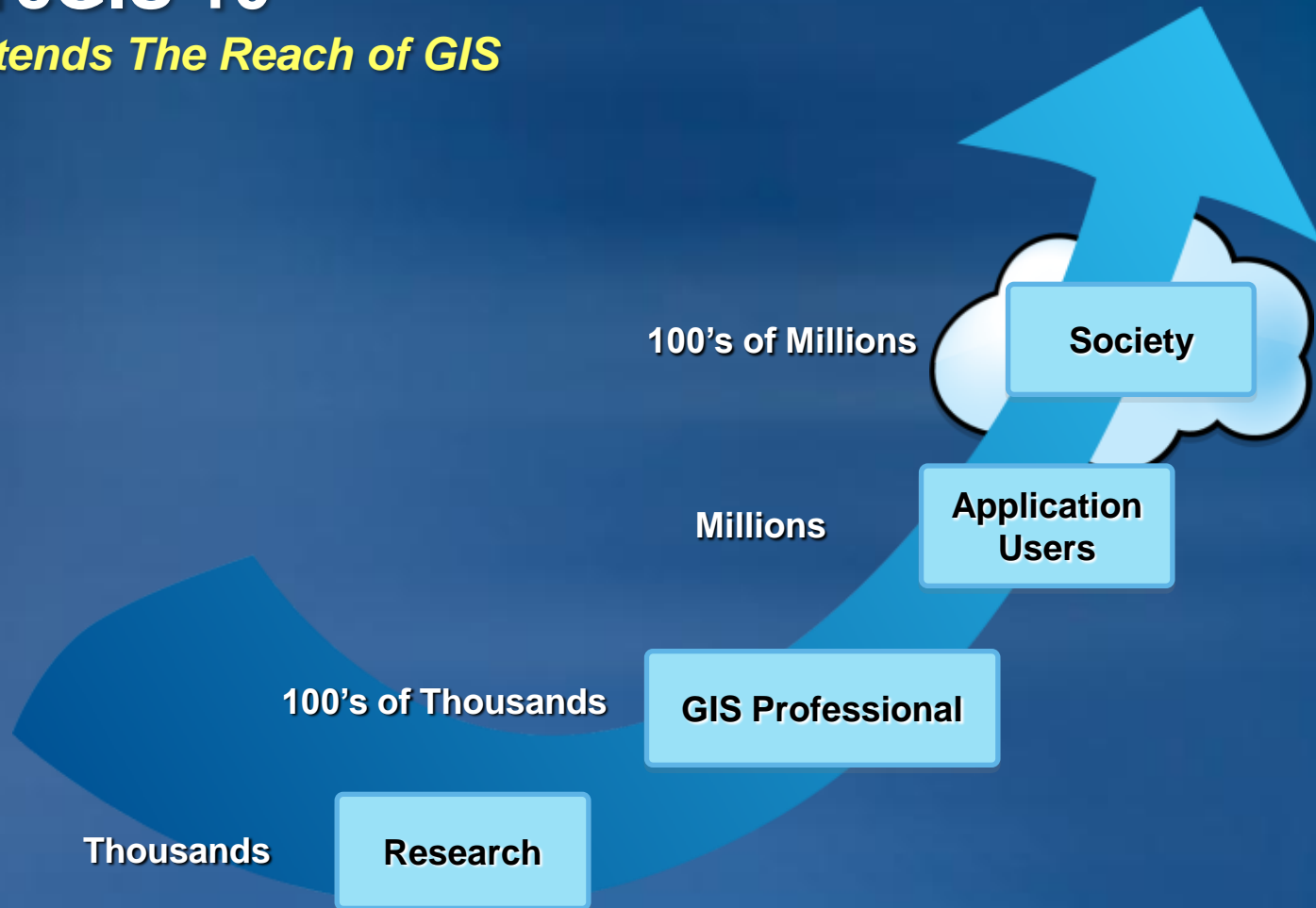
- Post Your Ideas On What We Should Do Next
 - Vote
 - Discuss
- Accessible to Everyone

ideas.esri.com
(coming soon)



ArcGIS 10

Extends The Reach of GIS



*Leveraging Your Investments . . .
... Revolutionizing the Way we Use Geographic Information*

GIS Is Changing . . .

. . . **Becoming Pervasive**

Users Are Increasingly Serving Their Geospatial Knowledge . . .

. . . **Establishing a New Foundation for Collaboration**

. . . **Developing New Applications**

New Technology. . . Is Easier, More Productive and Available

. . . **Creating New Ways of Doing Things**

Implementing This Vision . . .

Will Take Your Knowledge, Collaboration

. . . **And Commitment**

Our Collective Work Will Extend The Reach Of GIS



Transform the Way You Use GIS

ArcGIS 10 improves productivity and makes GIS available everywhere.

[Learn More](#)

Starting Points

Getting Started for

[Executives](#) | [Developers](#) | [IT](#)

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[Technology Topics](#) | [GeoDesign](#)

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[What Is GIS?](#)

Mapping for Everyone

[Create and Share Maps for Free](#)

Announcements

[Try the New ArcLogistics for 30 Days](#)

See immediate savings on vehicle-related costs such as fuel and overtime. Download it for free and start building efficient routes and schedules today.

[Publish More Than Map Services with ArcGIS Server](#)

Deliver geodata, geoprocessing, globe, image, KML, mobile, and Open Geospatial Consortium, Inc. (OGC), Web services.

[Modern Strategies Outlined in Land Administration for Sustainable Development](#)

This ESRI Press book describes land policies countries need for social equality, economic growth, and environmental protection.

[Read more news...](#)

GIS Community



[Singapore Government Launches OneMap](#)

OneMap is an integrated map system that allows government agencies to deliver location-based services and information.